

Title (en)  
Disc brake apparatus

Title (de)  
Scheibenbremsvorrichtung

Title (fr)  
Appareil de frein à disque

Publication  
**EP 2610519 A1 20130703 (EN)**

Application  
**EP 12199446 A 20121227**

Priority  
JP 2011284813 A 20111227

Abstract (en)  
A disc brake apparatus includes a boot (40) including a fitting part (44). A slide pin is fixed to one of a support and a caliper and is slidably mounted to a guide hole formed in the other. Convex parts (52) extending in a sliding direction of the slide pin are circumferentially arranged on an inner periphery of the fitting part (44). Concave recesses (54) are respectively formed between the neighboring convex parts (52). Each of the convex parts is formed with at least one a low-height portion (52b) and a high-height portion (52a) in an axial direction of a rotor, respectively. Positions of the low-height portion (52b) and the high-height portion (52a) in a circumferential direction of the rotor are respectively different between the adjacent convex parts (52). The high-height portion (52a) has a height so as to contact the slide pin, and the low-height portion (52b) has a height so as not to contact the slide pin.

IPC 8 full level  
**F16D 55/2265** (2006.01); **F16J 3/04** (2006.01)

CPC (source: EP US)  
**F16D 55/2265** (2013.01 - EP US); **F16D 65/095** (2013.01 - US); **F16J 3/046** (2013.01 - EP US); **F16D 65/0006** (2013.01 - EP US)

Citation (applicant)  
• JP H0665632 U 19940916  
• JP 4425737 B2 20100303

Citation (search report)  
• [A] JP 2011208769 A 20111020 - NISSIN KOGYO KK  
• [AD] JP 2006038164 A 20060209 - HITACHI LTD  
• [A] US 2008070706 A1 20080320 - COMPAU RICHARD ALFRED [US], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2610519 A1 20130703**; **EP 2610519 B1 20160601**; CN 103185086 A 20130703; CN 103185086 B 20160302; JP 2013133884 A 20130708; JP 5804641 B2 20151104; US 2013161134 A1 20130627; US 8857576 B2 20141014

DOCDB simple family (application)  
**EP 12199446 A 20121227**; CN 201210581610 A 20121227; JP 2011284813 A 20111227; US 201213723885 A 20121221